

## CLAIMS

We claim:

1           1. A method of managing performance of a grid job on a grid  
2 computer of a computing grid, comprising:

3           creating a file of at least one job performance factor  
4 governing performance of grid jobs on a particular grid computer;  
5 and

6           performing the grid job on the grid computer in conformance  
7 with each job performance factor for the grid computer.

1           2. The method of claim 1 wherein creating the file of at least  
2 one job performance factor includes storing the file on the grid  
3 computer to which the job performance factors apply.

1           3. The method of claim 1 additionally including reporting the  
2 file of the at least one job performance factor to a grid manager  
3 that assigns grid jobs to grid computers of the computing grid.

1           4. The method of claim 1 additionally including accessing the  
2 file of at least one job performance factor of one of the grid  
3 computers before assigning a grid job to the grid computer.

1           5. The method of claim 4 additionally including assigning a  
2 grid job to a grid computer based upon the at least one job  
3 performance factor in the file.

1           6. The method of claim 1 wherein the at least one job  
2 performance factor includes an amount of processor time utilization  
3 to reserve for processing local jobs on the grid computer.

1           7. The method of claim 1 wherein the at least one job  
2 performance factor includes an operating time window for  
3 performing grid jobs on the grid computer.

1           8. The method of claim 1 wherein the at least one job  
2 performance factor for one of the grid computers is different than  
3 at least one job performance factor for another one of the grid  
4 computers.

1           9. The method of claim 1 wherein creating the file  
2 additionally comprises including at least one local operating  
3 condition for the grid computer in the file, and wherein the at least  
4 one local operating condition recorded in the file comprises an  
5 indication of at least one time period of optimal electricity rate for  
6 operating the grid computer.

1           10. The method of claim 1 wherein creating the file  
2 additionally comprises including at least one local operating  
3 condition for the grid computer in the file, and wherein the at least  
4 one local operating condition recorded in the file comprises an  
5 indication of any virus alerts for the grid computer.

1        11. A method of monitoring status of a grid job on a  
2        computing grid including at least two grid computers, comprising  
3        forming a grid job for being performed by at least one grid  
4        computer;  
5        creating a job performance file based on the grid job; and  
6        sending the job performance file with the grid job to one of  
7        the grid computers.

1        12. The method of claim 11 wherein the job performance file  
2        includes at least one milestone to be reached in performing the grid  
3        job before completion, and additionally including reporting to a  
4        grid manager by the grid computer when each milestone is reached.

1        13. The method of claim 12 wherein the job performance file  
2        includes at least one expected time period for each milestone in  
3        which the milestone is expected to be achieved.

1        14. The method of claim 12 additionally including dividing a  
2        data set for the grid job into at least two portions, sending a first  
3        portion of a data set with the grid job to one of the grid computers  
4        for being processed on the grid computer, and sending a second  
5        portion of the data to the grid computer when the grid computer  
6        reports the achievement of one of the milestones.

1        15. The method of claim 11 wherein the job performance file  
2        includes at least one deadline for reporting status of the  
3        performance of the grid job to a grid manager, and additionally  
4        including reporting to the grid manager by the grid computer when  
5        each deadline is reached.

1           16. The method of claim 15 additionally including assigning  
2 the grid job to at least one other grid computer if the grid computer  
3 does not report to the grid manager by the at least one deadline.

1           17. The method of claim 11 wherein the job performance file  
2 includes at least one milestone to be reached in performing the grid  
3 job before completion and at least one deadline for reporting status  
4 of the performance of the grid job to the grid manager, and  
5 additionally including reporting to a grid manager by the grid  
6 computer when each deadline occurs regardless of whether the at  
7 least one milestone has been reached.

1           18. The method of claim 11 wherein the job performance file  
2 includes a relative priority for performing the grid job, and  
3 additionally including performing by the grid computer a grid job  
4 having a relatively higher priority before a grid job having a  
5 relatively lower priority.

1           19. The method of claim 13 wherein reporting to the grid  
2 manager additionally includes initiating a network connection  
3 between the grid computer and a grid manager computer when a  
4 network connection is not active and transmitting the report over  
5 the network connection.

1           20. The method of claim 12 wherein reporting to the grid  
2 manager additionally includes reporting a level of availability of  
3 resources of the grid computer to the grid manager.